

CLAIMS

1. A travel planning system comprises:
a scheduling process for determining a set of instances
of transportation that satisfy a user query;

a faring process that determines fares valid for at
least some of the instances in the set of instances of
transportation; and

an availablity process that uses results from a single
source of seat availability for a mode of transportation to
determine a set of available instances of transportation and
determines whether the results from the single source are
reliable.

2. The travel planning system of claim 1 wherein if the
availability process determines that the results are not
reliable, the availablity process makes a second seat
availability queries to a different source of seat availability
information.

3. The travel planning system of claim 1 wherein the
availablity process makes multiple, sequential seat availability
queries to multiple sources of seat availability information.

4. The travel planning system of claim 1 wherein the
availablity process makes multiple simultaneous seat availability
queries to multiple sources.

5. The travel planning system of claim 1 wherein the
sources of seat availability information have differing fixed and
marginal costs associated with obtaining information, including
computation, communication, time, and cost.

1 6. The travel planning system of claim 5 wherein the
2 travel planning process controls costs by setting a threshold
3 limit on the availability process to access the sources for at
4 least one of the costs.

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Cont'd
1 7. The travel planning system of claim 6 wherein the
2 thresholds are timeouts or price limits.

1 8. The travel planning system of claim 7 wherein the
2 availability process prioritizes queries to an availability
3 source to remain under a specified cost limit.

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1 The travel planning system of claim 1 wherein the
2 sources of seat availability information generate replies with
3 differing quality properties such as freshness, confidence,
4 precision, and validity.

1 10. The travel planning system of claim 1 wherein the
2 availability process determines tradeoffs between the cost of a
3 query and the properties of the response.

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Cont'd
1 11. The travel planning system of claim 1 wherein the
2 availability process speculatively determines travel options
3 using low-quality, uncertain, or missing availability data as
4 though they were high-quality or certain data.

1 12. The travel planning system of claim 11 wherein the
2 low-quality answers used are not returned from any external
3 source of availability information but are guessed or computed
4 internal to the travel planning process.

1 13. The travel planning system of claim 11 wherein the
2 results of the speculative computation are used to decide what
3 additional seat availability queries should be issued, what
4 sources should be queried, what quality data are needed, or what
5 cost to incur to get additional information.

1 14. The travel planning system of claim 1 wherein the
2 travel planning process data containing scheduling and fare
3 information and availability data to an intelligent client for
4 further processing and integration by the client.

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